

What is claimed:

- 1                   1.       An endoluminal device comprising a plurality of continuous filaments  
2       braided together, at least one filament comprising at least one first region having a first  
3       cross-sectional area and at least one second region having a second cross-sectional area,  
4       wherein the first cross-sectional area is larger than the second cross-sectional area.
- 1                   2.       The endoluminal device of claim 1, wherein the at least one filament  
2       comprises a step-change between the first region and the second region.
- 1                   3.       The endoluminal device of claim 1, wherein all of the plurality of  
2       continuous filaments comprise a step-change between each first region and each second  
3       region.
- 1                   4.       The endoluminal device of claim 1, wherein the at least one filament  
2       comprises a tapered filament.
- 1                   5.       The endoluminal device of claim 1, wherein all of the plurality of  
2       continuous filaments comprise tapered filaments.
- 1                   6.       The endoluminal device of claim 1, wherein the endoluminal device  
2       comprises an end having atraumatic end windings.
- 1                   7.       The endoluminal device of claim 1, wherein the at least one filament  
2       comprises a circular cross-section.
- 1                   8.       The endoluminal device of claim 1, wherein the at least one filament  
2       comprises a non-round cross-section.

1                   9.     The endoluminal device of claim 1, wherein the endoluminal device  
2     tapers from a first end having a first diameter to a second end having a second diameter  
3     smaller than the first diameter.

1                   10.    The endoluminal device of claim 1, wherein the at least one filament  
2     further comprises a third region having a cross-sectional area intermediate the first and  
3     second cross-sectional areas.

1                   11.    The endoluminal device of claim 1, wherein a first end of the  
2     endoluminal device has a first diameter and a second end of the endoluminal device has a  
3     second diameter smaller than the first diameter.

1                   12.    The endoluminal device of claim 11, wherein the endoluminal device  
2     comprises the first region of the filament having the first cross-sectional area at the first  
3     end of the endoluminal device and the second region of the filament having the second  
4     cross-sectional area at the second end of the endoluminal device.

1                   13.    The endoluminal device of claim 12, wherein the endoluminal device  
2     comprises an intermediate portion having a third diameter intermediate the first and  
3     second diameters, and the intermediate portion comprises a third region of the at least one  
4     filament having a third cross-sectional area intermediate the first and second cross-  
5     sectional areas.

1                   14.    The endoluminal device of claim 1 wherein the endoluminal device  
2     comprises a first portion and a second portion, wherein the second portion is more flexible  
3     than the first portion and comprises the second region of the at least one filament having  
4     the second cross-sectional area.

1                   15.    The endoluminal device of claim 1 wherein the filaments comprise  
2     wire.

1                   16.    The endoluminal device of claim 15 wherein the wire comprises one  
2   of: nitinol or stainless steel.

1                   17.    The endoluminal device of claim 1 wherein the filaments comprise  
2   polymeric material.

1                   18.    The endoluminal device of claim 1 wherein the endoluminal device  
2   comprises a radially compressed configuration for introduction into a lumen and a radially  
3   expanded configuration for deployment within the lumen.

1                   19.    The endoluminal device of claim 18 wherein the endoluminal device  
2   is expandable between the radially compressed configuration and the radially expanded  
3   configuration by one of: balloon expansion, self-expansion via spring elasticity, or self-  
4   expansion via a thermally or stress-induced return of a pre-conditioned memory material.

1                   20.    The endoluminal device of claim 1 wherein the endoluminal device  
2   comprises one of: a 1:1 single filament braiding ratio, a 2:2 single filament braiding ratio,  
3   or a 1:1 paired filament braiding ratio.

1                   21.    The endoluminal device of claim 1 further comprising a body and a  
2   plurality of legs, wherein at least a first leg portion of each leg comprises a discrete  
3   plurality of continuous filaments braided together and at least a first body portion of the  
4   body comprises at least one of said continuous filaments from each discrete plurality of  
5   continuous filaments braided together.

1                   22.    A method for treating a human being, the method comprising the  
2   step of deploying within a lumen of the human being an endoluminal device comprising a  
3   plurality of continuous filaments braided together, at least one filament comprising at least  
4   one first region having a first cross-sectional area and at least one second region having a

- 5 second cross-sectional area, wherein the first cross-sectional area is larger than the second
- 6 cross-sectional area.